



**This fact sheet provides information about:**

- Site background
- Site cleanup negotiations and design
- Cleanup activities planned for the site
- The next step in the cleanup process
- How to get additional site information
- Questions and answers about the site

A glossary of terms is included on Page 7. Words that appear in **boldface** type throughout the fact sheet are defined in the glossary.

### AVAILABILITY SESSION

The U.S. Environmental Protection Agency (EPA) will be hosting an availability session to update you on site activities and discuss upcoming cleanup activities at the Fultz Landfill site. Community members will have the opportunity to meet with EPA representatives and ask questions or discuss the project.

**Date:** Wednesday,  
August 6, 1997

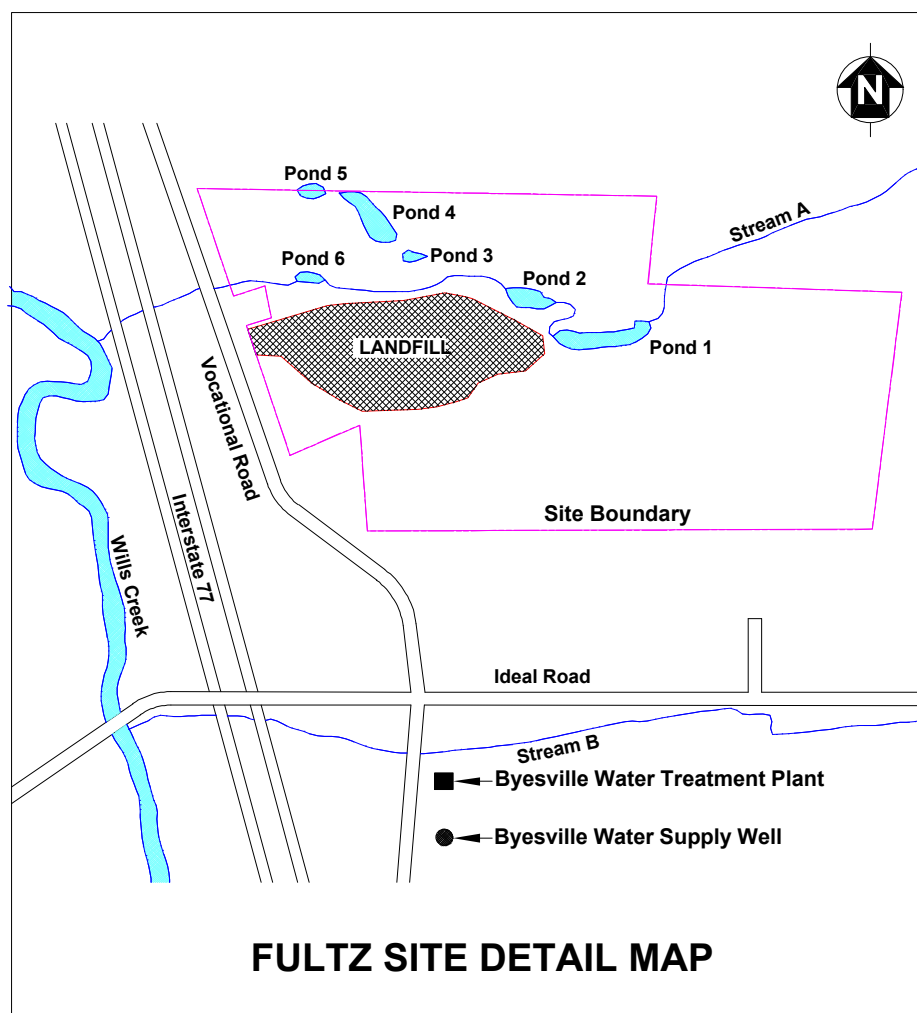
**Time:** 7:00 p.m.

**Location:** Elks Room  
City of Byesville Police  
Station  
123 Main Street  
Byesville, OH

# Cleanup Work to Begin at Fultz Landfill Superfund Site

Byesville, Ohio

July 1997



## INTRODUCTION

The Fultz Landfill site has been undergoing environmental cleanup investigations under the direction of the U.S. Environmental Protection Agency (EPA) since 1985. A two-phase **remedial investigation (RI)** was conducted at the site from 1985 to 1991 to determine the nature and extent of contamination at the site. RI results showed that site groundwater, soil, and **leachate** contained elevated levels of various **organic** and **inorganic chemical** contaminants. According to the RI report, one of these contaminants, **vinyl chloride**, posed potential health risks if not addressed.

Based on the RI, a **feasibility study (FS)** was completed at the site in 1991. The FS report identified and evaluated several cleanup methods for addressing contamination at the site and minimizing potential health risks posed by site contamination. After receiving public input, EPA identified the best cleanup method for the site and signed a document called a **record of decision (ROD)** for the site in 1991. The ROD specifies the final cleanup method for the site which included installing a cap over the landfill. Two phases of work comprise the site cleanup: the **remedial design (RD)** and **remedial**

**action (RA)** phases. The RD involved collecting additional information to assist with creating drawings and specifications for constructing the landfill cap and other aspects of the cleanup plan. The RD phase of Fultz Landfill site activities was completed in 1995. The RA is expected to begin at the site in Summer 1997. During the RA, site workers and equipment will begin actual construction activities, including landfill cap construction and installing leachate collection and groundwater extraction systems. Cleanup activities planned for the RA phase are discussed on Page 3 of this fact sheet.

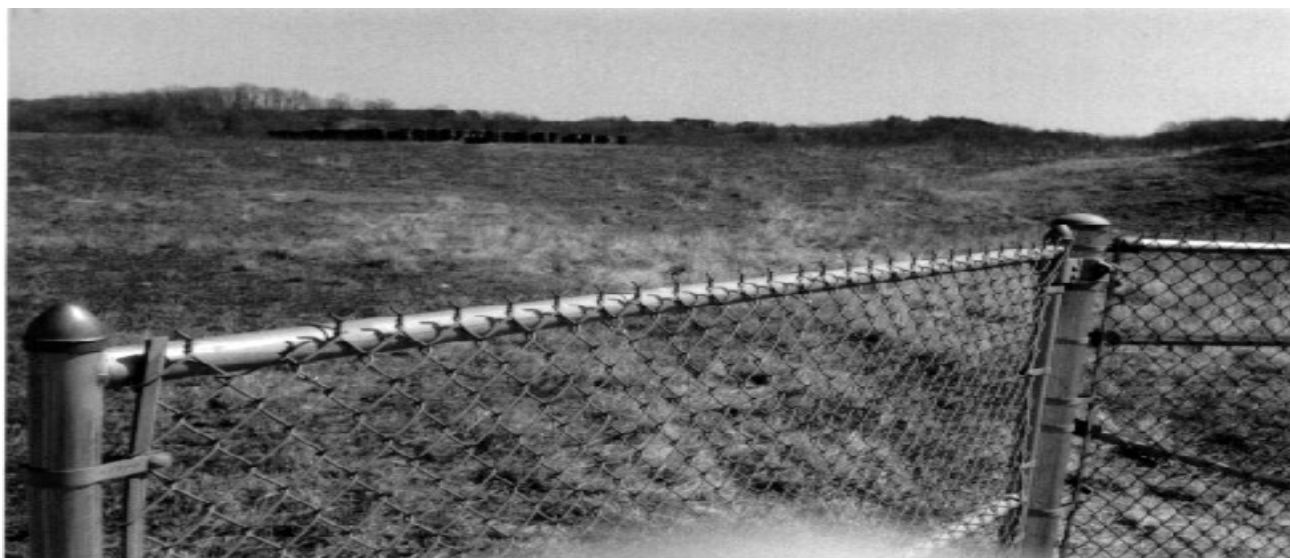
## SITE BACKGROUND

The Fultz Landfill site (see the photograph below) is located in an agricultural and coal mining region of east-central Ohio in Guernsey County. The site is located about ½ mile northeast of the corporate limits of the city of Byesville. Woods and pastures are located north, east, and south of the site, and residential and light industrial property is located to the west.

The Fultz Landfill occupies approximately 22 acres of a 58-acre tract of land. The landfill is situated on the north slope of a ridge that overlies abandoned coal mines. The north half of the landfill lies in an unreclaimed strip mine. The south half lies above an abandoned, flooded deep mine forming an **aquifer** referred to as the “coal mine aquifer.” The city of Byesville uses the coal mine aquifer as a primary drinking water source. Wills Creek flows

north past the site and through the city of Cambridge, which is located about 3 miles from the site. Cambridge uses the creek as a municipal water supply source.

The landfill property was owned, developed, and operated by Foster Fultz from October 1954 to June 1982. The property is currently owned by another member of the Fultz family. The landfill was operated as an open dump from 1958 to 1968. In 1969, the landfill was licensed by the Guernsey County District Board of Health and permitted to accept household, commercial, and industrial wastes. In the 1970s, the landfill had a history of substandard compliance with state regulations, and the landfill operator was cited for a number of operating violations.



FULTZ LANDFILL SITE

## SITE CLEANUP NEGOTIATIONS

Cleanup activities at the Fultz Landfill site are being conducted by the parties potentially responsible for contributing to contamination associated with the site. These parties are known as **potentially responsible parties (PRP)**. On June 25, 1997, a **consent decree** between seven PRPs and EPA was entered by the U.S. District Court for the Southern District of Ohio. The consent decree describes the cleanup actions to be taken at the site and contains requirements that the PRPs must fulfill in conducting the work. The consent decree was made available for public comment before being signed and finalized. EPA and the Ohio Environmental Protection Agency (OEPA) will oversee all cleanup work conducted by the PRPs.

Some of the cleanup activities presented in the consent decree have been modified since they were originally presented in the ROD for the site. A document called an “Explanation of Significant Differences (ESD)” was issued for the site in May 1995 that presented the parts of the cleanup plan that had been changed and explained why the changes were made. The changes to the cleanup plan were made based upon additional site information obtained during RD activities. Two of the cleanup changes significantly lowered the cost of conducting cleanup activities. The cleanup activities required by the consent decree are described below.

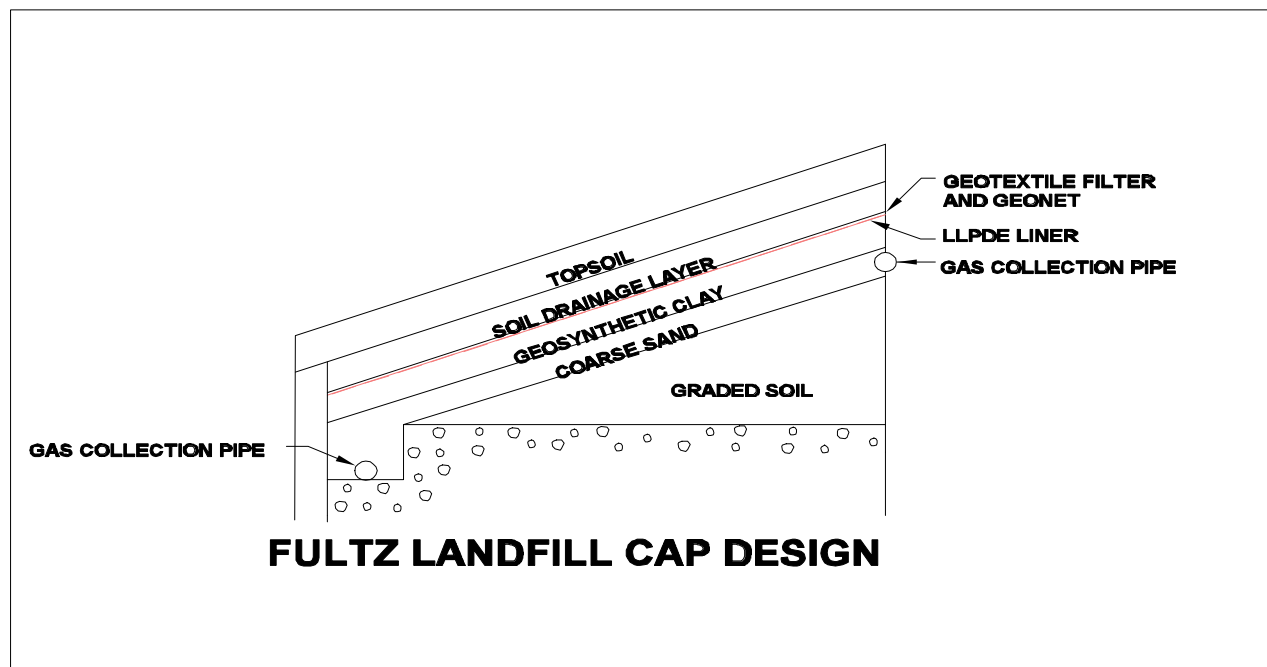
## CLEANUP ACTIVITIES

The RA phase of site activities is scheduled to begin at the Fultz Landfill site in Summer 1997. The box below lists activities planned for the site during the RA. Each of these activities is discussed in greater detail below.

### Site Cleanup Activities

- Maintain fencing around the site
- Install a multilayer cap over the landfill
- Collect and sample leachate and discharge it to Wills Creek or transport it to an off-site treatment facility based on sampling results
- Collect and sample groundwater and discharge it to Wills Creek or transport it to an off-site treatment facility based on sampling results
- Monitor groundwater, leachate, and methane gas during and after cleanup activities

During the RD phase, EPA installed fencing around the site to limit site access. This fencing will be maintained during the RA and following operation and maintenance activities. A multilayer cap will be constructed over the landfill to contain contamination, prevent contact with landfill wastes, and minimize water entering the landfill. The landfill cap will consist of several different layers, each playing an important role in the cap’s effectiveness (see Figure 2 on the following page).



The first layer of the cap will be constructed by grading the existing soil cover over the landfill to achieve the appropriate slope for the new landfill cap. The next layer will consist of 12 inches of sand coarse enough to allow gases generated by landfill waste to pass through. A gas collection system will be installed in this layer to collect and vent landfill gases. An impermeable, manufactured clay layer called a “geosynthetic clay liner” will be placed over the gas collection system. Next, a heavy plastic liner, called a “linear low-density polyethylene (LLDPE)” liner, will be placed over this layer to supplement the barrier created by the geosynthetic clay liner. This impermeable layer will create a barrier through which rainwater cannot penetrate. A drainage layer of synthetic material called “geonet” will be placed over the LLDPE liner to drain water away from the landfill and prevent water from accumulating over the impermeable layers. A layer of fabric called a “geotextile filter” will be installed over the geonet to prevent soil from clogging it. A 24-inch-thick layer of soil will then be placed over the drainage layer to protect the landfill from the degrading effects of freezing and thawing. The final layer of the landfill cap will consist of topsoil suitable for growing grass and plants to prevent erosion.

In addition to the landfill cap, a leachate collection system will be installed to intercept leachate leaving the landfill

and place it in on-site storage tanks. The collected leachate will then be sampled. If contaminant levels in the leachate meet safe levels set by OEPA, it will be discharged to Wills Creek. If these safe levels are not met, leachate will be taken off site for treatment. Groundwater extraction wells will also be installed at the site to collect groundwater and pump it to on-site storage tanks. If sampling shows that the collected groundwater does not meet safe discharge standards, the groundwater will be taken off site for treatment. Otherwise, it will also be discharged to Wills Creek.

Leachate and groundwater will be tested regularly during and after cleanup activities to ensure that water supply sources remain safe. This monitoring will be continued until it is determined that cleanup activities have successfully eliminated any threat of future contamination from the Fultz Landfill site. Methane gas levels will be measured at several landfill vents and near residences located next to the site to ensure that methane gas has not migrated off site.

RA activities are scheduled to be completed by Summer 1998. Groundwater and leachate will be monitored for approximately 20 years.

## THE NEXT STEP

After site cleanup activities are completed, site monitoring and maintenance activities will be conducted to ensure that the landfill cap and cleanup activities have been effective in reducing site-related contamination and health risks.

## QUESTIONS AND ANSWERS

In April 1997, EPA met with residents living near the Fultz Landfill site to listen to their concerns about the site and identify the best methods for providing the community with site-related information. During these meetings, residents asked a number of questions about the site cleanup process. The most frequently asked questions and EPA's answers to those questions are presented below.

***Q: What contaminants were found at the site?***

**A:** Sampling conducted during the RI showed the presence of organic chemicals (including vinyl chloride) and inorganic chemicals (including **arsenic**) in groundwater at the site. In addition, leachate samples contained organic chemicals. Additional sampling activities conducted during the RD showed that water used by residents in the vicinity of the landfill and Byesville residents was safe to drink. The RI did show, however, that if cleanup actions are not taken at the site, future site and Byesville residents may face health risks from drinking or using site groundwater.

***Q: Is there leachate coming from the landfill? If so, will it contaminate Wills Creek?***

**A:** Leachate has been detected seeping from the western base of the landfill. Samples collected from Stream A next to the landfill and from Wills Creek show that neither is contaminated. However, leachate could eventually migrate to these surface water bodies if no cleanup actions are taken at the site. The cleanup actions planned for the site include a leachate collection system that would collect leachate at the base of the landfill to prevent migration. (The leachate collection system is discussed in more detail in this fact sheet under the section entitled *Cleanup Activities* on Page 3.) The landfill cap to be constructed as part of the cleanup action will prevent leachate from forming and groundwater from becoming contaminated in the future.

***Q: Will leaching occur into the coal mine aquifer (a natural water supply source for Byesville)?***

**A:** Groundwater samples collected from the coal mine aquifer have shown that some landfill contamination has leached into the aquifer. However, because of the large volume of water in the aquifer and the relatively small amount of contamination detected, the water still meets safe drinking water standards. After the installation of the landfill cap and the leachate and groundwater collection systems (described under *Cleanup Activities* on Page 3), groundwater contamination will be reduced and eventually eliminated. Groundwater quality will be monitored throughout the RA and site maintenance and monitoring phases of site activities to ensure the safety of this drinking water source.

***Q: Will Byesville be contracting for the site cleanup?***

**A:** No, the PRPs conducting the site cleanup are responsible for selecting contractors to implement cleanup

activities. EPA will carefully oversee and approve all technical decisions and cleanup activities.

***Q: Where will the contaminated soil be taken when it is hauled away?***

A: All contaminated soil will be left in place and capped as part of the landfill.

***Q: Over time, will most of the soil contamination “escape” the site through air absorption? Will the fluorocarbons be dispersed in this way?***

A: No, soil contamination will not be released to the air. The impermeable landfill cap will prevent **volatile organic compounds (VOC)** and other contaminants from being released into the environment and prevent water from contacting landfill wastes. Fluorocarbons are not a site contaminant. VOCs in groundwater will be cleaned up by the groundwater collection and leachate collection systems discussed under *Cleanup Activities* on Page 3.

***Q: Will the well water supply in Byesville and water from Wills Creek be tested on an annual basis to ensure that contaminants have not leached into the water?***

A: Yes, groundwater in the coal mine aquifer that serves as the water supply source for Byesville will be tested four times a year to ensure that the water supply source is safe. Although sampling results have shown that Wills Creek is not contaminated, leachate and groundwater will be collected and analyzed before discharging it to on-site ponds or Wills Creek.

***Q: Will the Byesville water supply be safe to drink?***

A: Yes, water from the Byesville water supply is and will continue to be safe to drink. The landfill cap and other RA components will prevent contamination from traveling from the landfill into the environment. As part of the cleanup remedy, the groundwater aquifer drinking water source for residential wells in the vicinity of the site and the Byesville water supply aquifer will be tested regularly to ensure safety. Testing will proceed during the monitoring and maintenance phase until it is determined that the threat of contamination is eliminated.

***Q: Will methane gas be removed from the landfill? If so, what equipment will be used?***

A: Methane gas generated by the landfill will be safely removed through a series of gas vents installed as a standard part of the landfill cap. Methane sampling will be conducted to ensure that methane gas has not migrated off site.

***Q: Can the site be used as a landfill again? Can it be used for other industrial purposes in the future?***

A: The site cannot be used as a landfill in the future because it is located over the flooded coal mine aquifer. Although the future use of the site property has not yet been determined, deed restrictions will be placed on the property until cleanup activities are complete.

## GLOSSARY

**Aquifer:** An underground geological formation or group of formations containing usable amounts of groundwater that can supply wells and springs

**Arsenic:** An inorganic chemical produced primarily as a by-product from glass manufacturing, wood preservation, pesticide production, and fossil fuel burning activities. Long-term exposure may result in increased risk of some types of cancer and a number of other health effects such as damage to internal organs and tissues.

**Consent Decree:** A legal document approved by a judge that formalizes an agreement between EPA and PRPs under which the PRPs agree to conduct all or part of a cleanup action

**Feasibility Study (FS):** The second part of a two-part study called a “remedial investigation and feasibility study.” The FS identifies and evaluates site-specific remedial alternatives designed to address contamination identified during the remedial investigation.

**Inorganic Chemical:** Any chemical that does not contain both carbon and hydrogen together. Water, table salt, and metals are examples of common inorganic chemicals. Inorganic chemicals at the Fultz Landfill site include arsenic, chromium, and vanadium.

**Leachate:** Water that has filtered through porous material, such as soil or landfilled wastes. At the Fultz Landfill site, rainwater and moisture pick up contaminants as they percolate through landfilled wastes, thereby creating leachate.

**Organic Chemical:** Any chemical that contains both carbon and hydrogen together. Pesticides, petroleum, and solvents are examples of common organic chemicals. An organic chemical at the Fultz Landfill site is vinyl chloride.

**Potentially Responsible Party (PRP):** Any individual or company, including owners, operators, transporters, or generators, who are potentially responsible for contributing to contamination at a site

**Record of Decision (ROD):** A public document that explains which cleanup alternative will be used to address contamination at a site

**Remedial Action (RA):** The actual construction or implementation phase of a site cleanup that follows the remedial design (see below)

**Remedial Design (RD):** A phase of remedial action that follows the remedial investigation and feasibility studies (see above) and that includes development of engineering drawings and specifications for a site-specific cleanup

**Remedial Investigation (RI):** The first of a two-part study called a remedial investigation and feasibility study. The RI determines the site-specific nature and extent of contamination and generates information needed to evaluate risks and develop alternatives for addressing the contamination.

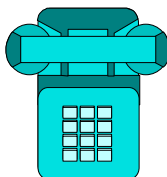
**Volatile Organic Compound (VOC):** A chemical substance that evaporates readily at room temperature

**Vinyl Chloride:** A chemical compound believed to be carcinogenic that is used to produce some plastics. Vinyl chloride is also formed as the result of the breakdown of other chemical compounds such as trichloroethene (TCE).

## ADDITIONAL INFORMATION

If you have questions or would like additional information about the cleanup activities planned for the Fultz Landfill site, please contact the individuals listed below.

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An information repository containing site-related documents including the newly updated community involvement plan is located at each of the following locations:

Guernsey County Public Library  
800 Stuebenville Avenue  
Cambridge, OH

Byesville Public Library  
100 Glass Avenue  
Byesville, OH



United States  
Environmental Protection Agency  
Region 5 (P-19J)  
77 West Jackson Boulevard  
Chicago, IL 60604-3590

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